Scalp and intracranial metastasis from pleomorphic adenocarcinoma of the parotid gland

Sir,

Adenocarcinoma of the salivary gland is an aggressive tumor with the tendency to metastasize locally or through lymphatics. Intracranial metastasis through hematogenous route from salivary gland malignant tumor is uncommon and most of the reported cases are from the adenocystic carcinoma of the parotid gland.\(^1\) We are reporting a case of scalp and supratentorial cerebral metastasis from pleomorphic adenocarcinoma of the parotid gland, which has never been reported in the English literature.

A 30-year-old man presented with painless swelling scalp in the midline of vertex for two months, progressively increasing weakness of right half of the body, headache and vomiting for one month. He was an operated case of pleomorphic adenocarcinoma of the left parotid gland. Parotidectomy with Type 2 neck dissection and removal of left facial nerve was done two months ago followed by radiotherapy. Neurological examination revealed papilloedema, facial nerve palsy and right side spastic hemiparesis with intact higher mental functions. There was a non-tender, firm immobile swelling in the scalp of about 1.5x1.5 cm size in the midline.

The MRI brain revealed a heterointense lesion in mid-parasagittal region enhancing brightly on contrast with dural tail, perilesional edema and mass effect. There was an additional mass, approximately 1.2x1.2 cm in size which was also enhancing on gadolinium contrast, arising from the scalp just above the intracranial lesion without any continuity with underlying bone or cerebrum [Figure 1]. Other hematological and biochemical examination was normal.

Left parietal craniotomy and total excision of intracranial tumor and excision of scalp mass was done. Both the scalp and intracranial tumors were highly vascular. The intracranial tumor had no continuity with the scalp lesion. Intracranial tumor was extra-axial, attached to falx, grayish, firm with well-defined plane of cleavage. Postoperative CT head revealed no residual tumor. The histopathological examination of the scalp and the intracranial mass was consistent with metastasis from the malignant pleomorphic adenoma. Patient was lost in the follow-up.

Adenocarcinoma of the salivary gland is a very aggressive tumor and metastasizes to the lung, bones, liver, choroid and brain.\(^1,2\) The involvement of brain and scalp is rare and only 11 cases of intracranial metastasis from parotid carcinoma have been reported...
Elevated cerebrospinal ß uid levels of placental alkaline phosphatase and ß -human chorionic gonadotrophin in a case of intracranial germinoma with normal levels in blood.

Sir,
The authors report a case of intracranial germinoma with raised levels of ß -human chorionic gonadotrophin (HCG) and placental alkaline phosphatase (PLAP) in cerebrospinal fluid (CSF), with normal levels in the blood.

A 13-year-old female complained of intermittent headaches and diplopia for the past three months. An MRI of the brain revealed a space-occupying lesion (SOL) involving the hypothalamus and infundibulum with signals isointense to the cortex on all sequences and with strong post contrast enhancement, suspicious of germinoma. Tests for serum tumor markers were negative. Subsequently, the levels of these tumor markers in the CSF were evaluated which revealed raised levels of placental alkaline phosphatase [1.928IU/L (n=<0.11 IU/L)] and b-HCG [4.4 mIU/ml n=<2 mIU/ml)] with normal alfa fetoprotein (AFP) levels. The patient’s guardians refused to consent for a biopsy. A diagnosis of primary pure intracranial germinoma was made on the basis of imaging and CSF tumor markers, though a small focus of mixed component could not be ruled out as confirmatory biopsy was not done. She was treated with craniospinal irradiation. The symptoms of the patient responded favorably and the CSF values of PLAP and b-HCG returned to normal after four weeks of the treatment. A CT scan after six months of treatment did not show any residual tumor.

The peak incidence of primary intracranial germ cell tumors is at puberty. The clinical signs and symptoms include visual disturbances, delayed sexual maturity, diabetes insipidus and growth failure. The non-germinomatous tumors present with more severe neurological deficits and have a poorer prognosis as compared to pure germinomas.

As the radiological characteristics of different tumors reported in the literature, however, all were secondary to adenoid cystic carcinoma of the salivary gland.[3] No case has been reported in the literature, with simultaneous scalp and intracranial metastasis secondary to pleomorphic adenocarcinoma of the parotid gland with sparing of overlying calvaria.

Carcinomatous lesions of the head and neck can extend intracranial via the direct destruction of the skull base, extension along the cranial nerves and branches of the internal carotid artery. Besides these routes, hematogenous spread may occur to the cranium through the external carotid artery, however, is uncommon. Tumors reported to metastasize to the cranium through the branches of the external carotid artery are from the liver, pancreas, thyroid, parotid and uterus, etc.[4,5] These tumors are highly vascular and show tumor blush angiographically. These tumors may be embolized preoperatively to reduce the blood supply; however, the outcome of head and neck cancer with distant metastasis is poor with a median survival of four to seven months.[6] This is a unique case as both the secondaries were from the same site without involving the bone even when all these structures had common vascular supply by the external carotid artery, possibly because of early presentation of the neurological symptoms.

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References

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